Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~A~~ An analog radio receiver comprising

a first front-end down-conversion mixer ~~that~~ to down-~~converts~~ convert an RF signal from a first low noise amplifier (LNA) into respective intermediate frequency I and Q signals;

a second down-conversion mixer to convert said intermediate frequency I and Q signals into a base-band signal with desired signal centered at DC, said second mixer to translate a DC offset in frequency domain to a frequency higher than said desired signal, said translated DC offset located at the same frequency of the second LO frequency; and

a notch filter coupled to said second mixer to reduce said translated DC offset.

2. (Currently Amended) The radio receiver of claim 1, wherein the first front-end down-conversion mixer is a quadrature mixer performs a down-conversion of the RF signal and the quadrature mixer matches phase and gain in the I/Q signal.

3. (Original) The radio receiver of claim 2, wherein the phase and gain are matched to achieve an amount of image rejection.

4. (Previously Presented) The radio receiver of claim 3, wherein the amount of image rejection is about 40 dB.

5. (Currently Amended) The radio receiver of claim 1, ~~wherein~~ comprising a gain stage and a filtering stage serially coupled to an output of said first mixer~~are used~~ to partially reject out-of-band signals and to block noise from propagating into a following stage.

6. (Currently Amended) The radio receiver of claim 1, comprising an analog-to-digital converter coupled to an output of said notch filter, wherein a frequency of said second LO signal is not less than a channel width of said analog radio receiver~~wherein a second down-conversion mixer converts a low IF signal into a base-band signal~~.

7. (Currently Amended) The radio receiver of claim ~~6~~1, wherein the second mixer translates a static or dynamic DC offset in frequency domain, resulting in a carrier leakage and the carrier leakage is located at the same frequency of the second LO frequency.

8. (Currently Amended) The radio receiver of claim 6, wherein a gain stage and a filtering stage coupled to an output of each of said first and second mixer is used to block noise from being input into a following stage.

9. (Currently Amended) The radio receiver of claim 6, wherein ~~a~~ said notch filter is used to eliminate a carrier leakage caused by static or dynamic DC-offset.

10. (Previously Presented) The radio receiver of claim 9, wherein the notch filter includes at least one of an elliptic filter and a chebyschef-II type filter.

11. (Original) The radio receiver of claim 1, wherein a plurality of local oscillator (LO) signals including at least a first LO signal and a second LO signal are generated using a phase locked loop (PLL) circuit.

12. (Currently Amended) The radio receiver of claim 11, wherein the second LO signal is generated using a direct digital frequency synthesizer (DDFS) or a divided reference clock input with filtering to reject harmonic signals.

13. (Currently Amended) The radio receiver of claim 11, ~~wherein the second LO signal is generated using a divided reference clock input with filtering to reject harmonic signals~~wherein the second mixer comprises:

a third mixer coupled to receive intermediate frequency I signals from said first mixer and a second LO I signal;

a fourth mixer coupled to receive said intermediate frequency I signals from said first mixer and a second LO Q signal;

a fifth mixer coupled to receive intermediate frequency Q signals from said first mixer and said second LO Q signal;

a sixth mixer coupled to receive said intermediate frequency Q signals from said first

mixer and said second LO I signal;

a first logic circuit to combine the output of the third and fifth mixer; and

a second logic circuit to combine the output of the fourth and sixth mixer.

14. (Currently Amended) ~~A~~ An analog radio receiving method comprising:

using a first front-end down-conversion ~~mixer~~ mixing to down-convert an RF signal from a first low noise amplifier (LNA) into respective intermediate frequency I and Q signals;

using a second down-conversion mixing to down-convert said intermediate frequency signals to obtain a desired signal that is centered at DC and translate a DC-offset to a carrier leakage signal at a second LO frequency not less than a channel width;

filtering at said second LO frequency to suppress said carrier leakage; and

analog-to-digital converting said desired signal.

15. (Currently Amended) The radio receiving method of claim 14, wherein a gain stage and a filtering stage are used to partially reject out-of-band signals and to block noise from propagating into a following stage after each of said first and second down-conversion mixing.

16. (Previously Presented) The radio receiving method of claim 14, wherein a second down-conversion mixer converts a low-IF signal into a base-band signal.

17. Canceled

18. (Previously Presented) The radio receiving method of claim 14, wherein a low-IF architecture is used to receive data.

19. Canceled.

20. (Currently Amended) The radio receiving method of claim ~~19~~14, wherein a notch filter is used to suppress the carrier leakage to an acceptable level.

21. (Currently Amended) The radio receiving method of claim ~~19~~14, wherein harmonics of the second LO signal are designed with a spectral purity to achieve an acceptable signal-to-noise ratio (SNR).

22. (Previously Presented) The radio receiving method of claim 21, wherein a frequency sum of a first LO signal and the second LO signal is the same as the desired RF signal frequency from the antenna.

23. (Previously Presented) The radio receiving method of claim 21, wherein a frequency of a first LO signal is the same as a frequency of the second LO signal.

24. (Previously Presented) The radio receiving method of claim 22, wherein the first LO signal is very high frequency close to the incoming carrier signal from the antenna and the second LO signal is close to DC and the overall receiver architecture becomes a low-IF architecture.